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furnace exercised on the extent of the foaming up of the slag. Between both factors a state of equilibrium established itself, which expressed itself in a specified height of the slag layer. If one reduced the pressure of the gases in the combustion chamber, so this height rose, and at times it occurred on reversal when the gas and air were cut off, and the chimney draught itself produced a suction for a moment that the slag frothed over the door sills, until on the re-entrance of the flame, and therewith the former pressure conditions, it sunk down again to the former level. The small quantities of slag lost in this manner were returned again to the furnace. The carbon elimination required several hours by such-like working methods, and its relative extent depended on the amount of heat supplied. The ore added was gradually dissolved by the slag, so that this constituted for a, length of time a solution of protoxide of iron of high concentration, from which iron was freely reduced and was taken up by the bath of metal. After the entire ore is dissolved, the iron content of the slag soon sinks, and the "heat" can be finished under conditions which are throughout equal to those at the conclusion of pig and scrap charges, only the quantity of slag is larger.

An excess of ore causes the same disadvantage as in the pig and ore process with solid charges, or as a result of the use of reducing agents in the pig and scrap process, and must be, therefore, carefully avoided. This is most simply done by means of selecting the ore addition initially somewhat too small and then adding it according to requirement. By correctly hitting upon ore additions, the growth of charge attains the value which was hereinbefore ascertained, and the slag becomes low in oxides at the finish that not more ferro-manganese is requisite for deoxidation than in charges which are produced by the pig and scrap process employing the best charge materials. The watching of the process is likewise simple, only tests must be frequently taken and investigated for their hardness, in which connection care is to be taken that the boil always proceeds with an intensity corresponding to the carbon content of the metal; a too previous diminution of this is to be aided by means of ore additions. If this proviso is